

**REMARKS**

Claim 1 is amended by incorporating the subject matter of claim 2 and further to recite that R in formula (A1) is an alkyl group having 1 to 2 carbon atoms as supported for example on page 21, lines 2 and 3 and the Examples of the specification. Further, the language "at least one of the first and second resins" is amended to recite "each one of the first and second resins", which is supported, for example, by the Examples of the specification, and specifically Examples 2, 12, 14, 15, 17 and 20 in which each of the two kinds or resins comprises a repeating unit represented by formula (A1) or (A2) and show very good results on flow initiation temperature.

Claim 2 is canceled. Claim 8 is amended to refer to incorporate the elements of original claim 1 and new claim 9 is added, which is directed to the subject matter of claim 8 and depends from amended claim 1.

No new matter is presented. Accordingly, upon entry of the Amendment, claims 1 and 3-9 will be all of the claims pending in the application.

**I. Response to Double Patenting Rejections**

**Paragraph 5: U.S. Patent No. 6,777,160**

Claims 1-5 and 7 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-8 of U.S. Patent No. 6,777,160.

Applicants respectfully traverse the rejections. There is no description of the claimed resin blend in US '160, whereas the present invention is characterized in that the resin comprises at least two kinds of resins. Further, one feature of the present invention is that the difference of glass transition temperatures between the first and second resins is within the

specifically recited range. This feature of the present invention is not disclosed, taught or suggested in US '160 at all, let alone claimed. Even further, the claims of US '160 do not teach or suggest the polymers recited in the claims of the present application. Thus, the present invention as recited in amended claim 1 is not an obvious variant of the invention of US '160.

Accordingly, Applicants respectfully request withdrawal of the obviousness-type double patenting rejection.

**Paragraph 6: U.S. Patent Nos. 6,787,282; 6,824,956; 6,479,211; and 6,787,283**

Claims 1-6 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-15 of U.S. Patent No. 6,787,282; claims 1-11 of U.S. Patent No. 6,824,956; claims 1-24 of U.S. Patent No. 6,479,211; and claims 1-25 of U.S. Patent No. 6,787,283.

Applicants respectfully traverse the rejections. There is no description of, or claim to, the presently claimed resin blend in US '282, US '956, US '211, US '283 or US '468, each of which are characterized by monomer species included in a resin, but which do not mention a resin blend as presently claimed. On the other hand, the present invention is characterized in that the resin comprises at least two kinds of resins. Further, one feature of the present invention is that the difference of glass transition temperatures between the first and second resins is within a specifically recited range. This feature is not disclosed, taught or suggested in the cited references at all, let alone claimed. Even further, the claims of the cited references do not teach or suggest the polymers recited in the present claims. Thus, the present invention is not an obvious variant of the inventions claimed in the cited references.

Moreover, US '956 teaches that it is desirable that, if the resins are blended, the resins have one group that is the same group except for an acid-decomposable group (formula (I) in US '956) in view of compatibility (see column 16, from line 30). In the present invention, even if all monomer units of one resin are different from those of the other resin, the effect of the invention is obtained (Examples 4, 7, 9, 12, 13, 17 and 19). Accordingly, the technical idea of the present invention is different from that of US '956. In addition, the examples of US '956 do not disclose that each of the resins in the resin blend includes a repeating unit represented by the formula (A1) or (A2). In view of the above, the invention of claim 1 as amended is not an obvious variant of the invention of US '956.

Accordingly, Applicants respectfully request withdrawal of the obviousness-type double patenting rejections.

**Paragraph 7: U.S. Patent Nos. 6,852,468; and 6,596,458**

Claims 1-5 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-15 of U.S. Patent No. 6,852,468 or over claims 1-8 of U.S. Patent No. 6,596,458.

Applicants respectfully traverse the rejection. There is no description of, or claim to, the presently claimed resin blend in US '468 and US '458, whereas the present invention is characterized in that the resin comprises at least two kinds of resins. Further, one feature of the present invention is that the difference of glass transition temperatures between the first and second resins is within a specifically recited range. This feature is not disclosed, taught or suggested in US '468 and US '458 at all, let alone claimed. Even further, the claims of US '468 and US '458 do not teach or suggest the polymers recited in the claims of the present

application. Thus, the present invention as recited in amended claim 1 is not an obvious variant of the inventions of US '468 and US '458.

Accordingly, Applicants respectfully request withdrawal of the obviousness-type double patenting rejection.

**Paragraph 8: U.S. Patent No. 6,927,009**

Claims 1-7 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-14 of U.S. Patent No. 6,927,009.

Applicant respectfully traverses the rejection. There is no description of, or claim to, the presently claimed resin blend in US '009, whereas the present invention is characterized in that the resin comprises at least two kinds of resins. US '009 is characterized in that the photosensitive composition comprises the specific photo acid generator (formula (I) in the claims of US '009), and this patent does not disclose, teach or suggest a resin blend in the claims, specification or the examples thereof. Thus, the present invention as recited in amended claim 1 is not an obvious variant of the invention of US '009.

Accordingly, Applicant respectfully requests withdrawal of the obviousness-type double patenting rejection.

**Paragraph 9: U.S. Patent Nos. 6,787,282; 6,824,956; 6,479,211; 6,787,283; 6,852,468; and 6,596,458 in view of Maeda et al (US 2002/0182535) or Inoue et al (US 6,406,830)**

Claim 7 is rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-15 of U.S. Patent No. 6,787,282; claims 1-11 of U.S. Patent No. 6,824,956; claims 1-24 of U.S. Patent No. 6,479,211; claims 1-25 of U.S. Patent No. 6,787,283; claims 1-15 of U.S. Patent No. 6,852,468 or over claims 1-8 of U.S.

Patent No. 6,596,458, each in view of Maeda et al (US 2002/0182535) or Inoue et al (US 6,406,830).

Applicants respectfully traverse the rejections. US '282, US '956, US '211, US '283, US/468 and US '458 do not teach or suggest or claim the presently claimed invention for the reasons set forth above. US '535 and US '830 are characterized in that the photosensitive composition comprises the specific photo acid generator of formula (I) recited in the claims and these patents do not disclose a resin blend in the specification or examples thereof. There is no motivation for one of ordinary skill in the art to modify or combine the references with a reasonable expectation of success of achieving the claimed invention which is characterized by a combination of the specific photoacid generator and resin blend of the present invention. Thus, the present invention is not obvious over the cited references.

Accordingly, Applicants respectfully request withdrawal of the rejections.

## **II. Response to Claim Rejections – 35 U.S.C. § 102**

**Paragraph 10:** Okino et al (US 6,303,266), Uetani et al (EP 1,143,299 and US 6,579,659), Iwasa et al (US 2002/0016431), Inoue et al (US 6,400,830), Nozaki et al (US 5,968,713), Aoi et al (US 6,402,991) or Hada et al (US 6,087,063)

Claims 1-7 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by the above-listed references. The Examiner asserts that the references each teach and/or claim resins comprising polymers which have monomers within the scope of the present claims and acid generators within the scope of claim 7.

Applicants respectfully traverse the rejections and submit that none of the cited references disclose, teach or suggest the presently claimed invention. US '266, EP '299, US

'659, US '431, US '713, US '991 and US '063 are each characterized by a specific repeating unit in a resin. US '830 is characterized by a specific photoacid generator as discussed above. None of the cited references disclose, teach or suggest a resin blend as in the present invention. Therefore, the present invention is not anticipated by any of the cited references.

Accordingly, Applicants respectfully request withdrawal of the rejections.

**Paragraph 11:**      **Sato et al (US 6,777,160, US 6,479,211 and 6,596,458),  
Sato (US 6,824,956, US 6,787,282 and US 6,852,468),  
Aoai et al (US 6,787,283) or Kodama et al (US 6,927,009)**

Claims 1-7 are rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by the above listed references. The Examiner asserts that the references each teach and/or claim resists comprising polymers which have monomers (including dihydroxyadamantyl methacrylate) within the scope of the present claims and acid generators within the scope of claim 7.

Applicants respectfully traverse the rejections. The cited references do not disclose, teach or suggest the presently claimed invention for the reasons set forth above. Accordingly, Applicants respectfully request withdrawal of the rejections.

**III. Response to Claim Rejections – 35 U.S.C. § 103**

**Paragraph 13:** Takeda et al (US 6,593,056) or Takemura et al (US 6,511,785) in view of Sato et al (US 6,777,160, US 6,479,211 and US 6,596,458), Sato (US 6,824,956, US 6,787,282 and US 6,852,468), Aoi et al (US 6,787,283), Kodama et al (US 6,927,009), Okino et al (US 6,303,266), Uetani et al (EP 1,143,299 and US 6,579,659), Iwasa et al (US 2002/0016431), Inoue et al (US 6,406,830), Nozaki et al (US 5,968,713), Aoi et al (US 6,042,991) or Hada et al (US 6,087,063)

Claim 8 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the above-listed references. According to the Examiner, Takeda et al and Takemura et al each teach a method of forming a pattern comprising applying a layer of deep-UV photoresist to a substrate, exposing the layer, post-baking the film, developing it, then heating the layer to form a contact hole pattern. It is the Examiner's position that, given the teachings of the cited references above regarding UV resists for use in a pattern formation method, it would have been obvious to one of ordinary skill in the art to form a pattern by the method of Takeda et al or Takemura et al employing the material of any of the above cited references.

Applicants respectfully traverse the rejections. US '056 and US '785 disclose polymer blends and relate to the improvement of thermal flow techniques. However, these polymer blends relate to blending polymers essentially having hydroxystyrene units. The technical idea of the present invention is not disclosed or suggested by the cited references at all. In addition, the flow process is controlled by an additive in US '056 (see formula (2) in the claims of US '056) and by a polymer having a specific group (see formula (1)-a to (1)-c in the claims of US '785) and an acid decomposable group in US '785. Accordingly, this is totally different from the technical idea of the present invention which provides thermal flow property with a specific

polymer blend. There is no clear description about thermal flow property in the secondary references. Accordingly, claim 8 as amended is not obvious from the references.

Accordingly, Applicants respectfully request withdrawal of the rejections.

#### **IV. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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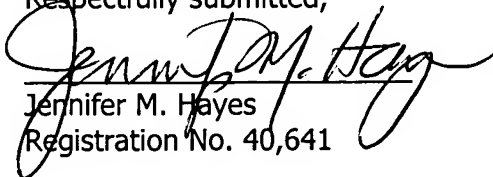
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